

REMARKS

35 U.S.C. § 112, ¶ 1 Rejection

The Examiner, in claim 1, asserts the limitation 'means for automatically optimizing system settings in accordance with a plurality of parameters' is "not mentioned in the specification" thereby evidencing a failure "to comply with the written description requirement." Final Office Action, 2. The Applicants have amended this limitation to now recite: 'means for *causing the user interface* to automatically optimize display settings in accordance with a plurality of parameters.' In light of this amendment to provide better clarity and the accompanying arguments set forth below, the Applicants respectfully traverse the Examiner's written description rejection.

The specification notes that "optimization is activated by the user pushing a button and/or selecting a menu item and/or icon." Specification at p. 42, l. 7-8. As set forth by the Applicants in the previous amendment (at page 12), the specification further notes that optimization "may include optimizing any one of, all of, or any combination of the gain, contrast, compression maps, adjusting the position of the image on the screen, edge enhancement, persistence, flash suppression, and/or baseline shift, for example." Specification at p. 42, l. 4-7. Furthermore, and as noted by the Applicants in the previous amendment (at page 12), "[a]n example of an auto optimization for a map may be that a gray scale is automatically selected for the display pixels such that the highest signal values of the transducer pixels are displayed using highest display pixel values." Specification at p. 42, l. 11-14. In yet another example of optimization—an example previously provided by the Applicants (at page 12 of the prior amendment)—"setting the dynamic range the display pixel values to span the range of transducer pixel signal values between an average maximum value and a minimum value, thereby filtering out noise and high intensity artifacts" is disclosed by the specification. Specification at p. 42, l. 14-17.

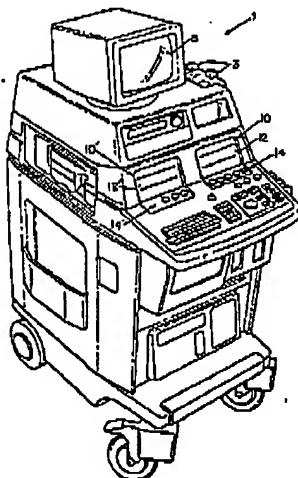
The fundamental factual inquiry in a written description rejection "is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, [the] applicant was in possession of the invention as now claimed." MPEP § 2163.02; see also Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). An applicant may show possession of the claimed invention by describing the claimed invention with all of its limitation using such descriptive means as words, structures, figures diagrams, and formulas. See Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572 (Fed. Cir. 1997). "While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure." MPEP § 2163. The Applicants assert that the aforementioned citations to the specification *explicitly evidence* sufficient 'descriptive means' to convey possession of the claimed invention at the time of filing as does reference to, at least, Figures 7 (725); 8 (819); 9 (917); 10 (1016); 11 (1114); and 12 (1209). As such, the Applicants assert the 35 U.S.C. § 112, ¶ 1 rejection as to claim 1 (and all other claims, including independent claims 21, 42, 47 and 53) to have been overcome.

35 U.S.C. 103 Rejection

The Examiner asserts that, *inter alia*, claims 1, 21, 42, 47, and 53 are "unpatentable over Short et al. (US 5,161,535 of record) in view of Mucci et al. (US 6,512,854)." Final Office Action, 3.

The Examiner asserts that Short teaches "a user interface for an ultrasonic imaging system" "comprising a set of display . . . and user interaction areas." Final Office Action, 3. The Examiner has failed, however, to give proper consideration to "[all] words in [the] claim" as each word "must be considered in judging the patentability of the claim against the prior art." In re Wilson, 424 F.2d 1382, 1385 (CCPA 1970). Specifically, the Examiner has failed to address the limitation that the user interface is 'a *handheld* user interface for an ultrasonic imaging system.'

The Applicants note that a "claim preamble, when read in the context of the entire claim, recites limitations of the claim . . . then the claim preamble should be construed as if in the balance of the claim." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999). In that context, Short fails to disclose 'a handheld user interface for an ultrasonic imaging system.'



Short, as can readily be seen in Figure 1 (above), is a bulky and cumbersome wheeled ultrasound cart. Short differs significantly from the presently claimed invention that seeks to overcome the limitations of the prior art, that is, "user interfaces [that] are cumbersome to operate" including "user interfaces requiring two hands to operate or transport resulting in encumbrance of using the system for real-time examination." Specification, 5, l. 6-8. As Short fails to teach the claimed handheld user interface, Applicants assert the Examiner has failed to teach each and every limitation of the presently claimed invention.¹ While the Examiner does state that "Short teaches that the ultrasonic imaging system is portable (see the wheels on Fig. 1)," Applicants note that this rejection was present in the Examiner's initial office action that was issued prior to the entry of this *handheld* claim limitation. Final Office Action, 4; see January 2005 Office Action, 3 (concerning Examiner's initial reference to portability). In that regard,

¹ The Applicants also assert that the finality of the present action is premature (as is further discussed below) in that the Examiner disregarded this limitation as asserted in the Applicants' previous amendment. See April 25 Amendment, 11-12 (concerning a handheld user interface).

the Applicants do not believe this limitation to have been properly addressed, especially in light of the fact that portability does not necessarily equate to being handheld. Short is evidence of the same as its wheels provide for portability but Short still ultimately lacks the characteristic of being handheld.

With regard to the amended limitation 'means for automatically optimizing display settings in accordance with a plurality of parameters,' the Examiner refers to col. 4, l. 45-60 of Mucci. Mucci, however, does not teach the present invention's claimed (1) means for causing the automatic optimization (2) of display settings (3) in accordance with a plurality of parameters. As a *prima facie* case of obviousness requires that all the claim limitations be taught or suggested by the prior art and Mucci fails to teach at least these three aspects of this claim limitation, the Applicants contend the Examiner has failed to evidence a *prima facie* case of obviousness and the rejection is, therefore, overcome. See In re Royka, 490 F.2d 981 (CCPA 1974) (concerning teaching of all limitations); see also In re Wilson, 424 F.2d at 1385 (requiring "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art").

Mucci first fails to teach means for causing automatic optimization. The Examiner's reference to Mucci concerns "raw ultrasound signals [being] fed to a Doppler phase detector process 20, followed by spectrum analysis procedure 22. The spectrum analysis procedure 22 recovers the predominant frequencies of the backscatter signals, along with accompanying noise." Mucci, col. 4, l. 55-59. Presuming the Examiner intends for the recovery of predominant frequencies to disclose optimization of display settings (which the Applicant contends Mucci does not), the Applicants still note there is no suggestion of means for causing an automatic optimization function.

As noted by the Federal Circuit in In re Donaldson, the Patent Office must apply 35 U.S.C. § 112, ¶ 6 limitations in their broadest "reasonable interpretation" in light of and consistent with the written description of the invention. 16 F.3d 1189, 1194 (Fed. Cir. 1994). As noted previously, optimization may be (for example) invoked through pressing a button or selecting a menu item or icon. See Specification, p. 42, l. 7-8. There is no teaching in Mucci as identified by the Examiner that (a) corresponds to the

limitation in light of the written description and/or (b) evidences automatic optimization. For the Examiner to assert that a Doppler phase detector process or spectrum analysis procedure is equivalent to the means recited in the present limitation of this application stretches the applicability of a 'reasonable interpretation' in light of In re Donaldson. As such, Mucci fails to teach each and every limitation of the Applicants' claimed invention (at least with regard to automatically optimizing display settings).

Mucci also fails to teach optimizing display settings. The portion of Mucci referenced by the Examiner refers to Doppler phase detection and spectrum analysis. See Mucci at col. 4, l. 56-57. Doppler phase detection is representative of detecting the shifting an ultrasonic echo signal using Doppler techniques. This disclosure in Mucci in no way evidences the optimization of a display setting but rather the detection of higher frequencies or lower frequencies to calculate the speed on an object (e.g., blood cells moving through blood vessels).

Likewise, spectrum analysis is representative of classifying frequencies of a signal to distinguish data from noise. Distinguishing data from noise in no way teaches the Applicants' claimed optimization of display settings. As such, Mucci again fails to teach each and every limitation of the Applicants' claimed invention (at least with regard to automatically optimizing display settings).

Mucci also fails to evidence means for causing the automatic optimization of display settings in accordance with a plurality of parameters. For example, the present invention discloses such parameters as gain, contrast, compression maps, adjusting the position of the image on the screen, edge enhancement, persistence, flash suppression, and/or baseline shift. See Specification, p. 42, l. 4-7. There is no teaching in Mucci as cited by the Examiner evidencing any such parameter governing the automatic optimization of a display setting. As such, Mucci fails to teach each and every limitation of the Applicants' claimed invention (at least with regard to automatically optimizing display settings).

The dependent claims of the application depend—either directly or via an intermediate dependent claim—upon independent claims 1, 21, 42 and/or 47. The Applicants have previously evidenced the allowability of these independent claims. A dependent claim incorporates each and every limitation of the claim from which it depends. See 35 U.S.C. § 112, ¶ 4. As Applicants contend the Examiner fails to evidence the anticipation or non-obviousness of any of the aforementioned independent claims, the Applicants contend the present dependent claims are allowable for at least the same reasons. Furthermore, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending there from is also nonobvious. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

*Request to Withdraw the Finality of the Final Office Action**Due to Prematurity of the Action*

The Applicants note that the Examiner has failed to consider and address the Applicants' previous amended limitation of a 'handheld user interface' as presented in the April 2005 Amendment.

The Applicants also note the Examiner did not address the lack of a *prima facie* case of obviousness arguments raised by the Applicants in the April 2005 Amendment. See April 2005 Amendment, 13-15 (concerning the lack of a *prima facie* case of obviousness). The Applicants previously contended the Examiner failed to establish a *prima facie* case of obviousness in that the Examiner (1) failed to evidence a suggestion or motivation to combine the references; (2) failed to evidence any expectation of success. The Applicants noted that the Examiner had merely asserted "it would have been obvious to [one] of ordinary skill in the art to modify Short's user interface so that it would be adapted to receive voice input and display text annotation, patient information and resize image (sic) in order to improve ultrasonic diagnostic capabilities." January 2005 Office Action, 5. The Examiner continues to make a similar contention in the present Final Office Action; this statement continues to fall short of the requirement that the teaching or suggestion to make the claimed combination and expectation of success must both be found in the prior art. See, e.g., In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991); see also In re Jones, 938 F.2d 347 (Fed. Cir. 1992).

The Applicants respectfully note that "[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply." In re Hoch, 428 F.2d 1351, 1342 n.3 (CCPA (1970)). Further, Section 706.07 of the MPEP provides that "[b]efore final rejection is in order a clear issue should be developed between the examiner and the applicant." To do so allows bringing "the prosecution to as speedy conclusion as possible and at the same time to deal justly by both the applicant and the public, the

invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied." MPEP § 706.07.

The Examiner's failure to properly address the 'handheld' limitation and the *prima facie* case of obviousness argument makes it difficult to "attain[] the goal of reaching a clearly defined issue for an early termination" in the event an appeal to the Board of Patent Appeals and Interferences is necessary. MPEP § 706.07. In that regard, the Applicant suggests the Examiner's final rejection to be premature and requests it to be withdrawn for failure to properly address all arguments previously raised by the Applicant. See MPEP § 706.07(d).

CONCLUSION

Applicants contend the Examiner's written description rejection has been overcome through amendment and/or reference to particular teachings in the specification.

The Applicants further contends the combination of Short with Mucci fails to teach each and every claimed limitation of the presently claimed invention.

The Applicants also contend the present Final Office Action to be premature in that it fails to address all arguments and/or limitations raised by the Applicants in their previous amendment. Applicants request withdrawal of the present Final Office Action.

Ultimately, the Applicants contend the present application to be in condition for allowance and request the issuance of a notice of allowance recognizing the same.

The Examiner is invited to contact the Applicants' undersigned representative with any questions concerning the present application.

Respectfully submitted,
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